



"Dedicated to Public Service"

# THE RADIATOR



W6RHC  
IRLP #8170



[www.gearsw6rhc.org](http://www.gearsw6rhc.org)

P.O.Box 202 Chico, CA 95927

May 2022 Newsletter

GEARS Founded August 13, 1939

## From the President.....

All the way to May already, the year is going by fast. April was an eventful month with some ups and a down. Starting with the down, a long time HAM and GEARS member Gene, WA6ZRT, became a Silent Key. Lawton E. Wright, Jr was a friend to everyone he met. If you knew Gene you loved Gene. He was ALWAYS wanting to learn whatever was new and always willing to share what he knew. So sorry he is gone from us, he and his lovely smile will be missed but not be forgotten. Condolences Steven Wright, MK6DBS, GEARS Secretary, and to the rest of Gene's family. It has not yet been determined regarding services.

We had a great meeting at the dive shop in April. After a moment of silence in Gene's honor much was shared regarding his contributions to GEARS and HAM radio in general. We then discussed the Wildflower and how GEARS and other HAMS would be supporting the ride. Following that discussion we had a super "Show and Tell" session sharing "Home-Brew-Projects". Several members brought in items to share and all were very interesting. Thank you to all who were in attendance and to those who shared projects.

An ENORMOUS thank you Kathy Favor, K6FAV, for the tremendous effort and execution of coordinating the GEARS activities in support of the Wildflower Ride. The ride was a great time for the riders and the MANY volunteers. I was stationed out toward Durham and I enjoyed all the interaction with riders as it happened. I had no issues to report but just being there helped me realize just how important HAM support is to this and other similar activities. Not only did I get the personal satisfaction of having volunteered but I was able to meet a lot of great people while having a wonderful meal. Not to mention a pretty T-shirt. So, thank you to VELO for putting on the ride and especially a big thank you to Kathy for her devotion and expertise coordinating the HAM's support effort.

Goodness this note is getting long, just a couple additional items. The Annual Auction is this month. Saturday, May 21 beginning at noon at the Masonic Lodge on East Ave. Many, many items to be auctioned so tell all your HAM friends and don't be late. The Auction will be the GEARS meeting this month.

We are still in search of a location for Field Day, June, 25th. Looking for a location where antennas can be erected and there is indoor air conditioning available, a tall order but these are our main desires. If you have a place or have a suggestion, we are wanting to hear from you, thank you.

Have a great MAY, it is a great MAY to have. Remember the GEARS May meeting will be the auction. Remember the GEARS Chico breakfast, Saturday, May 14, 9:00 am at the Farmers Skillet. There will be NO third Friday meeting this month

'73

Paul Stewart N6PAS  
[n6pas1@gmail.com](mailto:n6pas1@gmail.com)



Join GEARS on Facebook  
[www.facebook.com](https://www.facebook.com) For timely news and additional information.



## May 2022 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 8pm OARS Net	2 7pm GARS Net 8pm ARES Net	3 7pm PARS Net 7:30pm GEARS Net	4	5 7:30pm Simplex Net	6	7
8 8pm OARS Net	9 7pm GARS Net 8pm ARES Net	10 7pm PARS Net 7:30pm GEARS Net	11	12 7:30pm Simplex Net	13 7pm OARS meeting 7pm GARS meeting	14 9am Chico Breakfast
15 8pm OARS Net	16 7pm GARS Net 8pm ARES Net	17 7pm PARS Net 7:30pm GEARS Net	18	19 7:30pm Simplex Net	20 No GEARS Meeting	21 12pm GEARS Auction Masonic Lodge Chico
22 8pm OARS Net	23 7pm GARS Net 8pm ARES Net	24 7pm PARS Net 7:30pm GEARS Net	25	26 7:30pm Simplex Net	27	28 9am OARS Breakfast
29 8pm OARS Net	30 7pm GARS Net 8pm ARES Net	31 7pm PARS Net 7:30pm GEARS Net				

**VEC Testing**, FCC License Exam available by appointment. For information or registration call Tom Rider, W6JS 530-514-9211

**Chico Breakfast** 2nd Saturday 9am Farmers Skillet Cohasset Rd, Chico

**GEARS Board Meeting** 1st Monday 7pm by zoom.

**PARS Meeting** 2nd Thursday 6:30pm, doors open 6pm Old Magalia Community Resource Center

**OARS Meeting** Second Friday of the month, St. Pauls Episcopal Church Hall, Oroville.

**GARS Meeting** Second Friday of the month, Lutheran Church Hall, Artois.

**Butte ARES Meeting** 3rd Tuesday, TBD Contact Dale Anderson, KK6EVX 826-3461 for more information.

**GEARS Meeting, Auction Sat May 21st Noon at Masonic Lodge Chico**

**OARS Breakfast** 4th Saturday of the month, at Cornucopia of Oroville.

### NETS:

OARS Club Net Sunday 8pm 146.655 Mhz - PL 136.5

GARS Club Net Monday, 7:00 pm 147.105 MHz + PL 110.09, secondary: 146.850 MHz-PL 110.9

Butte ARES Net Mondays 8pm 145.290 MHz - PL 110.9

Yuba Sutter Club Net Monday 7pm 146.085 MHz + PL 127.3

GEARS Club Net Tuesdays 7:30 PM 146.850 MHz - PL 110.9

PARS Club Net Tuesday 7pm 145.290 - PL 110.9

Simplex Net Thursday 7:30 p.m. 146.52 no tone

Yuba Sutter ARES Net Thursdays 7pm 146.085 MHz + PL 127.3

Sacramento Valley Traffic Net Nightly 9:00 PM 146.850 MHz - PL 110.9

### GEARS Century Members

Dale Anderson, Kathy & Michael Favor

Kent Hastings, Bennett Laskey, Jim Van Sickie

We thank these members for their extra support.

## GEARS Auction is Saturday May 21st

GEARS annual auction is Saturday May 21st Noon at the Masonic Lodge 1110 W East Ave, Chico, CA 95926

It will be in the back picnic area.

### New License Fees

New Amateur Radio License Applications Fee To Become Effective April 19, 2022. It will cost \$35 for a new or to renew your license. The ARRL Youth Licensing Grant Program to cover a one-time \$35 application fee for license candidates younger than 18 years old. Read more at <http://www.arrl.org/.../new-amateur-radio-license...>

Further information and instructions about the FCC Application Fee are available from the ARRL VEC at [www.arrl.org/fcc-application-fee](http://www.arrl.org/fcc-application-fee).

### Why You Need Radials On Vertical Antenna

Many hams ask why they should bother to add the recommended radial field to their ground-mounted vertical antenna. There are reasons why it's a good idea.

Ground-mounted verticals use the Earth as their counterpoise. The vertical radiator is only half of your resonant or non-resonant vertical antenna. The other half is counterpoise; an imaginary radiator directly opposite, and on axis with, the wire or aluminum standing on the ground. This second half essentially makes your antenna a vertical dipole. Because of varying soil conductivity and chemical composition, some "ground" is better at the conduction of RF energy than others.

Why does the ground need to conduct at all? The vertical does that. Consider that your antenna represents a load at the end of your coax. Ideally, the RF current flows out the center conductor from the transmitter, but also must flow back to the transceiver on the coaxial shield to complete the current loop. If the vertical is radiating the current, then where does the returning current flow come from? The answer is the ground!

A radial field enhances the ability of the ground around the vertical to conduct RF energy. The radials "collect" the return current required for efficient antenna operation. Some hams complain that radials narrow the bandwidth of the antenna. This occurs because the radial system raises the "Q" of the antenna system. The higher the "Q" value, the more efficient the antenna will be. With a good radial field, radiation resistance will decrease, RF current will increase and bandwidth will narrow. That is just as it should be. Be aware that a poorly efficient antenna can have a good SWR. How efficient a radiator is a 50 ohm resistor across your coax? That's called a dummy load and they all have very low SWR!

When your vertical is ground-mounted, use a good radial field to raise radiation efficiency. You'll have a better antenna system that will benefit your station and the joy of your radio hobby.



## **EMCOMM: What is MARS and How Can You Get Involved?**

By Elizabeth Klinc, KE8FMJ

The Military Auxiliary Radio System (MARS) started in November 1925 as the Army Amateur Radio System (AARS) to provide a pool of trained radio operators to augment the Signal Corps during mobilization in time of war and provide an extension of the Signal Corps' radio network to support civil authority in natural disaster relief efforts. The AARS continued to operate until the United States entered World War II on December 7, 1941. At that time, amateur radio was banned from the air and the AARS was deactivated.

In 1946, the importance of AARS was recognized as a government benefit and was reactivated. AARS was changed to Military Amateur Radio in 1948 with the creation of separate Army and Air Force programs. The acronym was coined by Captain Robert L. Gabardy, K4TJ SK, referencing Mars, the Roman god of war. The name was changed again in September of 1952 to Military Affiliate Radio System in recognition of the growing number of civilian volunteers.

The Navy-Marine MARS program was established in August 1962. The program changed to the Military Auxiliary Radio System in December 2009. The change from affiliate to auxiliary put the program in line with the emergency communications' mission, equal in status with the Coast Guard Auxiliary and Civil Air Patrol. The United States Navy-Marine Corps program closed its operation in September 2015.

According to the U.S. Air Force Military Auxiliary Radio System (AFMARS) website:

**MISSION:** The United States Air Force Military Auxiliary Radio System provides contingency communications support on behalf of the men and women of the Department of Defense and other U.S. Government users in support of their important and diverse national security missions whenever, however and wherever required.

**VISION:** To support the Department of Defense and U.S. Government in any manner within our capability by providing first-rate, on-demand contingency communications services that rival far more complex and expensive systems' levels of service and quality, and to do so in peacetime or times of national crisis, on an around-the-clock basis, and at no expense to the U.S. taxpayer. Members will utilize their own resources and time to provide these service[s].

**VALUES:** We, the members, view our services as a patriotic duty. We utilize our God given talents and resources to meet this obligation. At all times we strive to provide our communications services in a manner consistent with the finest traditions of the United States Military.

According to the U.S. Army Military Auxiliary Radio System (AMARS) website:

AMARS is an elite group of dedicated citizen volunteers who support the Department of Defense (DOD) in a variety of circumstances, including complex catastrophes and cyber denied or impaired conditions. MARS is a DOD program that trains, organizes and tasks volunteer Amateur Radio operators.

AMARS citizen-volunteers demonstrate the Army's values of Loyalty, Duty, Respect, Selfless-Service, Honor, Integrity and Personal Courage, freely and generously giving their time and resources as a reflection and measure of devotion to our nation. The world has changed dramatically since the MARS structure was first developed and implemented but what has not changed is the dedication of these citizens to serve.

So you want to volunteer? In order to apply for MARS membership, applicants must:

Be eighteen years of age or older.

Be citizens of the United States or individuals who have been lawfully admitted to the United States for permanent residence under Title 8, United States Code, Chapter 12 (8 USC Chapter 12).

Hold a valid Federal Communications Commission (FCC) amateur radio license.

Agree to operate per the regulations prescribed for participating in the Army MARS Program.

Have no prior record of being terminated for cause by another Service MARS Program (may be waived by the Chief/Army MARS upon review of mitigating information and consultation with the other Service).

Have unrestricted access to a radio system consisting of a transmitter and receiver (or transceiver), antenna, modem, computer equipment, and associated software. This system must be capable of operating on all radio frequencies between 2 and 30 MHz in accordance with NTIA Manual of Regulations technical standards with an output power of at least 100 watts in order to communicate effectively over long distances. The system shall use single side band as described in MIL – STD – 188 – 141 and the serial phase key shifting data mode described in MIL – STD – 188 – 110A. "Unrestricted access" means

the individual may use the radio system on demand and as required to support MARS activities without conditions. Be of good moral character (for example, trustworthy, honest, reliable, respects and upholds laws), have no felony convictions or be under indictment in any court for a felony. Have no associations with known terrorist organizations. Not use illicit drugs. Not have been declared mentally incompetent. Not have been discharged from the Armed Forces under other than honorable conditions.

Be willing to sign a non-disclosure agreement and submit to a background check. If information is discovered on a background check that prevents the applicant from becoming a MARS operator, the individual may provide mitigating information to the Office of the Chief, Army MARS, who will make a final determination on the application.

Be able to maintain radio and computer systems without assistance, including loading and configuring software and operating systems, configuring and operating local area networks, and recover corrupted computer systems.

MARS has a long history of providing worldwide auxiliary emergency communications during times of need. Members work by the slogans "Proudly Serving Those Who Serve" and "Proud, Professional, and Ready." The combined two-service MARS programs, Army and Air Force, have a volunteer force of over 3,000 dedicated and skilled amateur radio operators. The main benefit of MARS membership is enjoying the amateur radio hobby through a diverse, constantly changing MARS service to the nation when access to traditional forms of communication may no longer be available.

Questions? Contact me at KE8FMJ@arrl.net.

### GEARS Officers:

President..... Paul Stewart, N6PAS  
Vice-President..... Kent Hastings, WA6ZFY  
Secretary..... Steven Wright, KM6DBS  
Treasurer..... Jim Matthews, K6EST  
Director..... Bennett Laskey, K6CEL  
Director..... Dale Anderson, KK6EVX  
Director..... Rich Astley, N3UOR  
Past President..... Jim Matthews, K6EST  
VEC..... Tom Rider, W6JS  
ARES..... Dale Anderson, KK6EVX

### GEARS Dues and Donations can be made online at

[paypal.me/w6rhc](https://paypal.me/w6rhc)

Or by mail to:

GEARS  
PO Box 202  
Chico, CA 95927

Your dues and contributions support our local repeaters, ARES, and outreach events to keep amateur radio alive in our area. GEARS also makes donations to support other local repeaters.

GEARS Newsletter edited by Jim Matthews K6EST

[JiminChico@yahoo.com](mailto:JiminChico@yahoo.com)

